multiplying the P, the D and the I operation outputs by a power ratio during processing a wafer and is determined by multiplying the power ratio only by the I operation output when loading a wafer into the reaction chamber.

10. (Amended) The method of claim 1, wherein said at least one set of power ratios is selected by using a target temperature when loading a wafer into the reaction chamber and is selected by using a measured temperature during processing a wafer.

14. (Amended) An apparatus for manufacturing a semiconductor device by using the method of claim 1, comprising:

a reaction chamber;

a rotatable susceptor, provided in the reaction chamber, for mounting a wafer thereon, wherein the reaction chamber includes a central region disposed around a rotational axis of the susceptor and a peripheral region formed along a circumferential region of the wafer;

a plurality of heating sources for heating the wafer, wherein the heating sources are divided into at least a central zone corresponding to the central region and a peripheral zone corresponding to the peripheral region, each zone having plural heating sources;

at least one temperature sensor provided at each of the central region and the peripheral region of the reaction chamber; and

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a control unit for controlling a power ratio for each heating source in each zone based on an output of the temperature sensor corresponding to said each zone.

Please add new claims 15-21 as follows:

15. (New) The method of claim 1, wherein the given temperature differs from the selected temperatures.

16. (New) The method of claim 1, wherein power for each of the plurality of heating sources is independently controlled.

17. (New) The method of claim 1, wherein the heating sources are divided into a central zone corresponding to a central region of the reaction chamber and a peripheral zone corresponding to a peripheral region of the reaction chamber and

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wherein powers to heating sources in the central zone are controlled by using a measured temperature from a temperature sensor provided at the central region of the reaction chamber and powers to heating sources in the peripheral zone are controlled by using a measured temperature from a temperature sensor provided at the peripheral region of the reaction chamber.

18. (New) An apparatus for manufacturing a semiconductor device, comprising:

a reaction chamber;

a rotatable susceptor, provided in the reaction chamber, for mounting a wafer thereon, wherein the reaction chamber includes a central region disposed around a rotational axis of the susceptor and a peripheral region formed along a circumferential region of the wafer;

a plurality of heating sources for heating the wafer, wherein the heating sources are divided into at least a central zone corresponding to the central region and a peripheral zone corresponding to the peripheral region, each zone having plural heating sources;

at least one temperature sensor provided at each of the central region and the peripheral region of the reaction chamber; and

a control unit for controlling a power ratio for each heating source in each zone based on an output of the temperature sensor corresponding to said each zone.

19. (New) The apparatus of claim 18, wherein the temperature sensors provided at the central and the peripheral region are located below a susceptor level.

20. (New) A method for controlling temperatures in a semiconductor manufacturing apparatus comprising the apparatus of claim 18, including the steps of:

determining a set of power ratio to be fed to the heating sources for each of two or more selected temperatures; and

controlling a given temperature by performing power control on the heating sources based on at least one set of power ratios obtained in the determining step.

21. (New) The method of claim 20, wherein the given temperature differs from the selected temperatures.